

CLAIMS

1. An alloy endowed with high-temperature mechanical  
5 strength in an oxidizing medium, said alloy being free  
of molybdenum and/or tungsten and comprising a  
chromium-containing matrix strengthened by  
precipitation of carbides, characterized in that it  
comprises carbides of at least one metal (M) chosen  
10 from titanium, zirconium and hafnium, said carbides  
optionally further containing tantalum (M').

2. The alloy as claimed in claim 1, characterized in  
that it comprises a matrix based on cobalt or nickel or  
15 iron-nickel.

3. The alloy as claimed in claim 1 or 2,  
characterized in that it comprises at least 0.2%,  
especially at least 0.6%, carbon by weight.

20 4. The alloy as claimed in one of the preceding  
claims, characterized in that it comprises the metal M,  
and optionally M', in a metal/carbon molar ratio  
(M + M')/C of around 0.9 to 2, in particular 0.9 to  
25 1.5.

5. The alloy as claimed in one of the preceding  
claims, characterized in that it is essentially  
composed of the following elements (the proportions  
30 being indicated in percentages by weight of the alloy):

Cr	23 to 34%
Ni	6 to 12%
M = Zr, Hf or Ti	0.2 to 7%
M' = Ta	0 to 7%
35 C	0.2 to 1.2%
Fe	less than 3%
Si	less than 1%
Mn	less than 0.5%,

the balance consisting of cobalt and inevitable impurities.

6. The alloy as claimed in one of the preceding  
5 claims, characterized in that it comprises 0.2 to 5%, preferably around 0.4 to 5%, titanium by weight.

7. The alloy as claimed in one of the preceding  
10 claims, characterized in that it comprises 0.2 to 5%, preferably around 0.4 to 3%, zirconium by weight.

8. The alloy as claimed in one of the preceding  
15 claims, characterized in that it comprises 0.2 to 7%, preferably around 0.4 to 5%, hafnium by weight.

9. The alloy as claimed in claim 8, characterized in that the Hf/C ratio is less than 1.

10. The alloy as claimed in one of the preceding  
20 claims, characterized in that the tantalum content is around 1 to 7%, in particular around 2 to 6%.

11. An article, especially an article that can be used  
25 in particular for the hot smelting or conversion of glass, made of an alloy as claimed in any one of claims 1 to 10, especially by casting.

12. The article as claimed in claim 11 that has  
30 undergone a forging operation after the alloy has been cast.

13. The article as claimed in either of claims 11 and  
35 12, which consists of a fiberizing spinner for the manufacture of mineral wool.

14. A process for manufacturing an article as claimed  
in claims 11 to 13, comprising the casting of the molten alloy in a suitable mold.

15. A process for manufacturing mineral wool by internal centrifugation, in which a stream of molten mineral material is poured into a fiberizing spinner, the peripheral band of which is pierced by a multitude  
5 of orifices via which filaments of molten mineral material escape that are then attenuated through the action of a gas into wool, characterized in that the temperature of the mineral material in the spinner is at least 1200°C and in that the fiberizing spinner is  
10 made of a cobalt-based alloy as claimed in one of claims 1 to 10.

16. The process as claimed in claim 15, characterized in that the molten mineral material has a liquidus  
15 temperature of around 1130°C or higher, especially 1170°C or higher.